

Being Healthy and Ready to Learn is Linked with Family and Neighborhood Characteristics for Preschoolers

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Introduction

Because families are the first nurturers and educators of their children, it is helpful for policymakers and other stakeholders to understand how family characteristics, the activities in which families engage, and their neighborhood circumstances are associated with preschool children's health and readiness for learning. The analyses presented in this brief examine the associations between various family and neighborhood factors and the extent to which a child is reported to be healthy and ready to learn, using data from the 2017 and 2018 waves of the [National Survey of Children's Health](#) (NSCH) for children ages 3 to 5.

Key findings

Several key factors are consistently related to how healthy and ready to learn a preschool child is found to be, even when we take account of (statistically control for) social, economic, and demographic factors.

- **Family characteristics and activities.** Parents or caregivers who describe their families as having greater strength to face problems, more consistent bedtime and meal routines, and less anger toward their child report having children who are more likely to be healthy and ready to learn.
- **The parent's physical and emotional well-being.** Parents who describe themselves as having excellent or very good mental or emotional health and who describe themselves as having excellent or very good physical health report having children who are more likely to be healthy and ready to learn.
- **The family's neighborhood.** Children who live in neighborhoods with few amenities and more problems are less likely to be healthy and ready to learn than other preschoolers. The reverse is true among children whose families live in neighborhoods that are supportive of families. Neighborhood supportiveness has a larger association with whether a preschooler is healthy and ready to learn than the measures of neighborhood problems and amenities.

About the survey and measure

Parents or caregivers who participate in the Health Resources and Services Administration's (HRSA) [National Survey of Children's Health](#) (NSCH) respond to a set of items about their child's development. From these responses, measures of each child's health and readiness to learn were developed for four domains: self-regulation, physical health/motor development, early learning, and social emotional competencies. Specifically, with respect to their development, HRSA's Maternal and Child Health Bureau (HRSA MCHB), with Child Trends, identified children as "On Track," "Emerging," or "Needs Support" in each of the four domains. In addition, an overall summary National Outcome Measure of Healthy and Ready to Learn (HRTL) was defined according to whether children were healthy and ready to learn in all four domains, in three domains, two domains, or in zero or one domain. This brief uses the metric of On Track in all four domains as representative of being "Healthy and Ready to Learn."

Analyses assess a range of characteristics related to being On Track in all four domains of the HRTL measure.¹ These family and neighborhood characteristics are also assessed in the NSCH and include family strengths, family routines, parent physical and mental/emotional health, parent anger, the parent's emotional support for parenting, neighborhood amenities and challenges, and neighborhood supports for childrearing. Associations or differences described in this brief reflect statistically significant differences as indicated by a p-value < .05. Furthermore, we conducted analyses that examined the association between each characteristic and being On Track in all four domains that controlled for social, demographic, and economic factors, including child race/ethnicity, sex, parental education, family structure, and family income. These findings help parse the association of each characteristic with HRTL from other influences on child development. Findings from multivariate analyses are reported in the text. Detailed tables of findings are available upon request.

This brief also presents findings related to being On Track in each of the four domains of the Healthy and Ready to Learn measure (HRTL); further detail on the HRTL measure can be found in Appendix A. Details on each covariate, including item wording and response options, are available in Appendix B. Findings for each of the measure's four domains are presented in Appendix C. Two related briefs, forthcoming in 2020, provide additional analyses drawn from HRTL data: One brief examines the association between children's scores on the HRTL measure and their demographic, social and economic backgrounds; and the other explores the association between the HRTL measure and child characteristics.²

The Healthy and Ready to Learn National Outcome Measure

The pilot Healthy and Ready to Learn Title V Maternal and Child Health Services Block Grant National Outcome Measure (NOM) was developed by the Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB), in collaboration with Child Trends. The measure uses data from the [National Survey of Children's Health](#) (NSCH), a nationally representative, annual household survey funded and directed by HRSA MCHB, and designed to be completed by parents of children ages 0 to 17. Healthy and Ready to Learn questions are specific to children ages 3 to 5. It is a whole-child assessment that covers four domains of development: early learning skills, social-emotional development, self-regulation skills, and physical health and motor development. For more information on the development of the measure, please visit [the HRTL description and FAQ page](#) and Appendix A.

¹ Details on each covariate including item wording and response options are available in Appendix B.

² The demographic, social, and economic variables include parents' education, family structure, family income, food security, household primary language, access to health insurance, children's race, children's gender, and children's age. The child experiences include frequency of book reading, amount of screen time and sleep, presence of a special health care need, access to family-centered care in a medical home, and exposure to adverse childhood experiences.

Findings

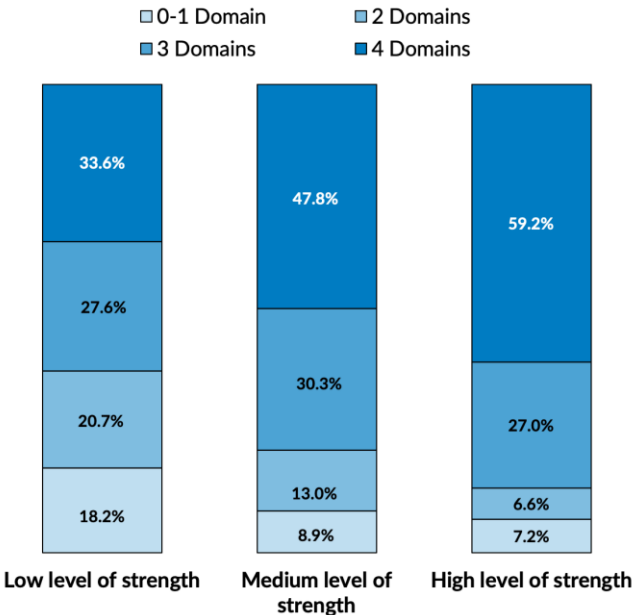
Preschoolers whose parents report medium or high levels of family strength to face problems are substantially more likely to be healthy and ready to learn than preschoolers whose parents report a low level of strength.

Most American children live in families that possess many strengths, and these strengths are associated with a host of positive outcomes.¹ Family strength is assessed by four questions in the NSCH that were developed to ask the parent or the parental caregiver to describe how their family faces problems; specifically, the survey asks how frequently family members talk together, work together, know they have strengths to draw on, and are able to stay hopeful when they face problems. The frequency for each of the four reported strengths was summed, as described in Appendix B, and scores were defined as low, medium, and high levels of strength.

Analyses indicate that children are more likely to be On Track when their families feel they have the strength to face problems. That is, children whose parents report that their family has high levels of strength for facing problems are much more likely to be healthy and ready to learn in all four developmental domains. Also, children in families that describe themselves as having low levels of strength for facing problems are far less likely to be On Track in all four domains (see Figure 1). Specifically, 34 percent of children in families with a low level of self-described strength are healthy and ready to learn in all four domains, compared with 48 percent of children in families with a medium level of strength and 59 percent of children in families with high levels of strength. Corresponding to this pattern, approximately half of children in families with low levels of strength are On Track only in zero or one domain, or in two domains. These associations remain statistically significant when we control for family poverty, parent education, child gender, race/ethnicity, and family structure.

Detailed descriptive analyses are reported in Appendix C. They indicate that level of family strength is related to being On Track in each of the four HRTL domains, individually, as well as the overall summary HRTL measure; however, family strength is most strongly associated with readiness in the self-regulation and social-emotional domains.

Figure 1. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose families have low, medium, or high levels of family strength to face problems



Source: Child Trends' analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children's Health

3 Healthy and ready to learn is linked with family and neighborhood characteristics for preschoolers

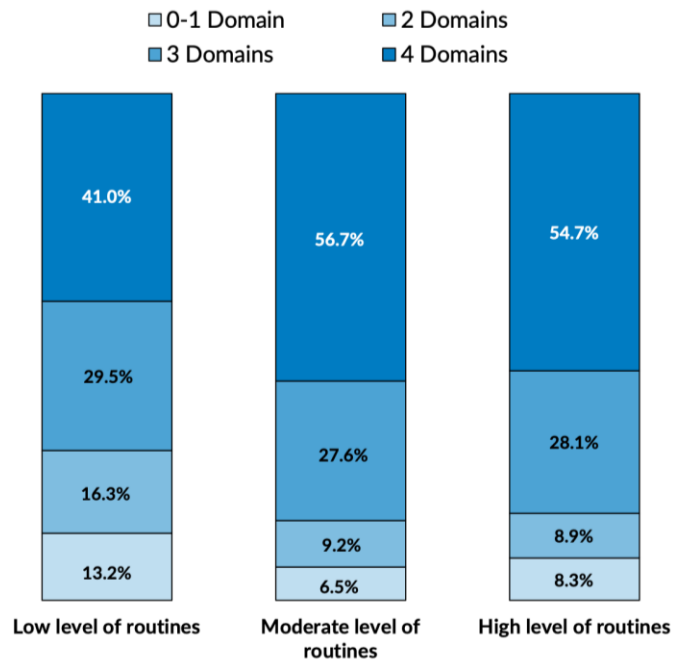
Preschool children in families with routines for bedtime and meals are much more likely to be healthy and ready to learn than children in families without such routines.

Family routines have been found to be consistently related to many aspects of children’s positive development.ⁱⁱ Two items that assess family routines in the NSCH were combined for this analysis: having meals with all family members and having a regular bedtime (see Appendix B for items and coding).

Figure 2 shows that a low level of family routines is related to being On Track in fewer domains. Specifically, as shown below, 41 percent of children in families with few routines are On Track in all four domains, compared with 57 percent of children in families with moderate levels of routines and 55 percent in families with high levels of routines. Similarly, children in families with fewer routines are more likely to be On Track only in zero or one domain or in two domains. These associations remain statistically significant when we control for family poverty, parent education, child gender, race/ethnicity, and family structure.

Detailed descriptive analyses reported in Appendix C indicate that children in families with moderate or high levels of routines are more likely to be On Track for three of the four individual HRTL domains—early learning, social-emotional, and self-regulation—but not in the health domain.

Figure 2. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose families have low, medium, and high levels of bedtime and meal routines



Source: Child Trends’ analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children’s Health

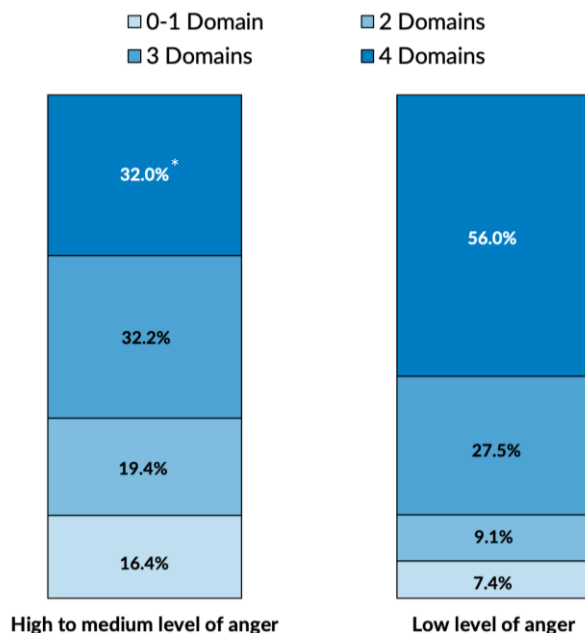
Preschool children whose parents report a moderate or high level of anger with their child are considerably less likely to be healthy and ready to learn than their peers with parents who report a low level of anger.

Parent anger may undermine children’s development of appropriate social-emotional and self-regulation strategies; less is known regarding the link between parent anger and children’s school readiness, broadly.ⁱⁱⁱ Parent anger is assessed in the NSCH by an item that asks parents or caregivers how frequently they feel angry with their child. Relatively few parents reported frequently feeling angry; therefore, families were coded as having moderate or high levels of anger or having low levels of anger.

The child’s status on the HRTL measure is strongly associated with the parent’s report of feeling angry. Only 32 percent of children whose parents describe high or moderate anger are found to be On Track in all four domains of the measure, compared with 56 percent of the children whose parent indicates a low level of anger. While the proportion of children ready in three domains is similar across the two groups, the proportion of children who are ready only in zero or one domain, or in two domains, is considerably higher when parents feel moderate or high levels of anger. This association remains statistically significant when we control for family poverty, parent education, child gender, race/ethnicity, and family structure.

Detailed descriptive analyses reported in Appendix C indicate that children whose parent reports frequently feeling moderate to high levels of anger with the child are less likely to be On Track in each of the four individual HRTL domains, and not just in the overall HRTL measure.

Figure 3. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose families have moderate-to-high levels of parenting anger or low levels of parenting anger



Source: Child Trends’ analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children’s Health
 * Interpret with caution, the value in the figure relative to the confidence interval width is greater than 120% (1.2 times the estimate)

5 Healthy and Ready to Learn is Linked with Family and Neighborhood Characteristics for Preschoolers

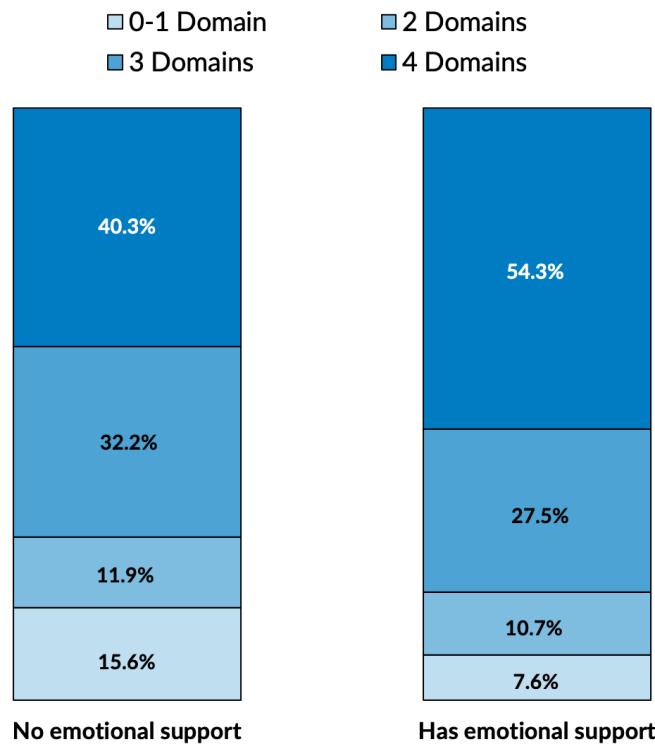
Preschool children whose parents report that they have emotional support for their parenting are more likely to be healthy and ready to learn than preschoolers whose parents lack this emotional support; however, this association does not hold when we account for socioeconomic factors.

Emotional support is a key protective factor for parents, as it can promote positive parenting in the face of adversity.^{iv,v} An item in the NSCH about parent emotional support focuses on the previous 12 months; it asks the parent whether there was someone they could turn to for day-to-day emotional support with parenting or raising children.

Most parents reported that there was a family member or a professional to whom they could turn for parenting support; 54 percent of the children of these supported parents were found to be healthy and ready to learn in each of the four domains, compared with 40 percent of the children whose parent did not have someone to whom they could turn. Differences are more modest for children who are healthy and ready to learn in three or two domains. However, children whose parent has no one to turn to for parenting support are twice as likely to be On Track in zero or one domain, compared with parents who do have parenting support, at 16 percent compared with 8 percent. However, when we control for family poverty, parent education, child gender, race/ethnicity, and family structure, this association is no longer statistically significant, suggesting that the association reflects socioeconomic factors.

Detailed descriptive analyses indicate that a parent’s report of having emotional support is associated with their child being On Track in all four of the individual HRTL domains, but the association is least strong for the early learning domain (see Appendix C).

Figure 4. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose parent reports having no emotional support compared with children whose parents have one or more persons who provide emotional support



Source: Child Trends' analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children's Health

6 Healthy and Ready to Learn is Linked with Family and Neighborhood Characteristics for Preschoolers

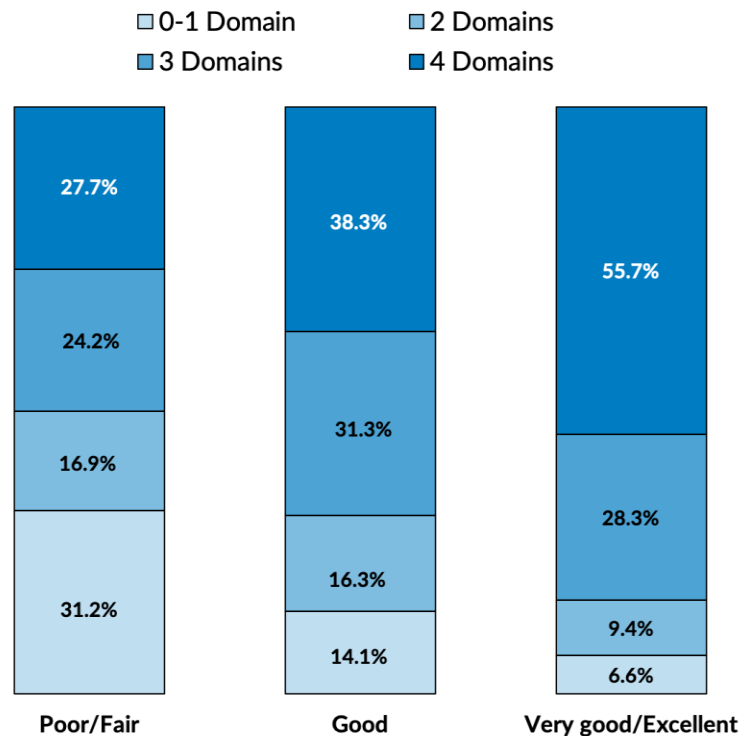
Preschool children are more healthy and ready to learn when their parent’s mental and emotional health is better.

Research suggests that parental mental and emotional health is a key predictor of children’s school readiness because of its links to supportive parenting, emotion socialization, and engagement in learning activities.^{vi,vii} Parents interviewed in the NSCH reported whether they felt that their own mental and emotional health was excellent, very good, good, fair, or poor. For this analysis, these responses were collapsed into three categories, shown in Figure 5.

Among preschool children whose parent reported that their own mental or emotional health is poor or fair, only 28 percent are On Track in all four HRTL domains, compared with 38 percent among children whose parent reported that their mental or emotional health is good and 56 percent among children whose parent reported that their mental or emotional health is very good or excellent. These associations remain statistically significant when we control for family poverty, parent education, child gender, race/ethnicity, and family structure.

Detailed descriptive analyses indicate that the parent’s mental and emotional health is related to their child being On Track in all four of the individual HRTL domains (see Appendix C), not just on the overall HRTL measure.

Figure 5. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose parent has fair/poor, good, or very good/excellent mental and emotional health



Source: Child Trends’ analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children’s Health

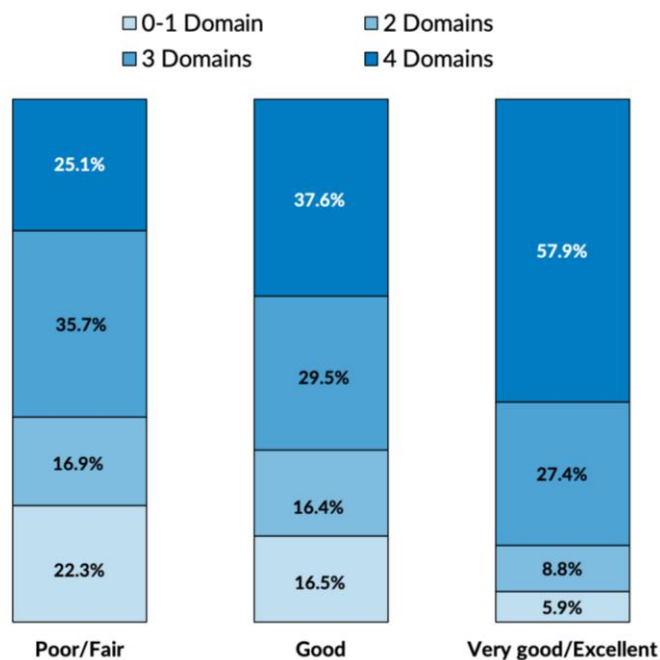
7 Healthy and Ready to Learn is Linked with Family and Neighborhood Characteristics for Preschoolers

Preschool children are more likely to be healthy and ready to learn when their parents are physically healthy.

Parental health is associated with parental reports of children’s health, such that parents who report poor health for themselves also tend to report poor health for their children.^{viii} The NSCH asked all parent or caregiver respondents to report on their own physical health and whether it is excellent, very good, good, fair, or poor. For this analysis, these responses were collapsed into three categories, as shown in Figure 6. As noted for mental and emotional health, there is a strong positive association between parent’s physical health and their preschool child’s health and readiness to learn. Specifically, the percent of preschool children who are On Track in all four HRTL domains increases from 25 percent to 38 percent to 58 percent as parent’s reported physical health improves, correspondingly, from fair/poor to good to very good/excellent. Similarly, as a parent’s reported level of health improves, the proportion of preschool children On Track in zero or one domain declines, from 22 percent to 17 percent to 6 percent. When we control for family poverty, parent education, child gender, race/ethnicity, and family structure, excellent/very good parental health continues to be associated with the child’s HRTL score; however, good parental health is no longer associated statistically significantly with the child’s HRTL score.

Detailed descriptive analyses indicate that the parent’s physical health is related to whether the child is On Track in all four of the individual HRTL domains (see Appendix C), not simply the overall measure of HRTL.

Figure 6. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose parent reports fair/poor, good, or very good/excellent physical health



Source: Child Trends’ analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children’s Health

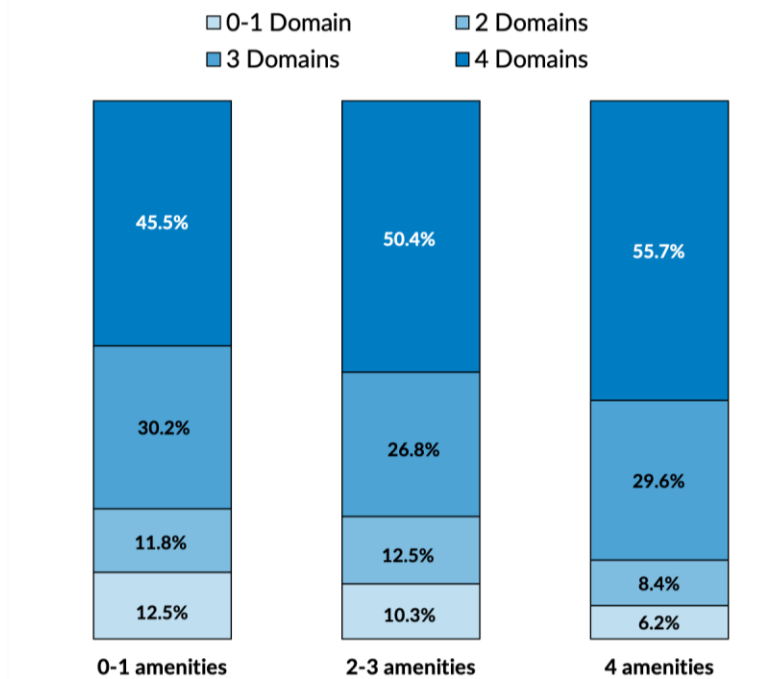
Preschoolers' health and readiness to learn is moderately related to the number of amenities in the family's neighborhood.

Neighborhood conditions and amenities have also been found to be associated with young children's development and school readiness.^{ix} Neighborhood amenities are measured by four items in the NSCH that ask parents whether their neighborhood has parks, sidewalks, a recreation center, and a library. For this analysis, the number of these amenities available in the neighborhood is summed to create an index from zero to four.

While children whose neighborhoods enjoy more amenities are more likely to be On Track for health and readiness than children whose neighborhoods have fewer amenities, the magnitude of the differences is less striking than for measures of family functioning. That is, the proportion of children On Track in all four domains rises from 46 percent when neighborhoods have zero or one of these amenities, to 50 percent when neighborhoods have two or three amenities, and to 56 percent when neighborhoods have all four amenities. Similarly, the proportion of children who are only On Track in zero or one domain or in two domains is higher when the number of amenities is lower. The differences depicted in Figure 7 are not small, but the magnitude of the differences is smaller than those found for family and parenting characteristics in Figures 1 through 6. When we controlled for family poverty, parent education, child gender, race/ethnicity, and family structure, having two to three amenities remained statistically significant; however, surprisingly, having all 4 amenities was not significantly associated with being more healthy and ready to learn.

Detailed descriptive analyses indicate that the presence of neighborhood amenities is associated with being On Track in three of the individual HRTL domains, the exception being social-emotional development (see Appendix C).

Figure 7. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose neighborhood has 0-1, 2-3, or all 4 amenities



Source: Child Trends' analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children's Health

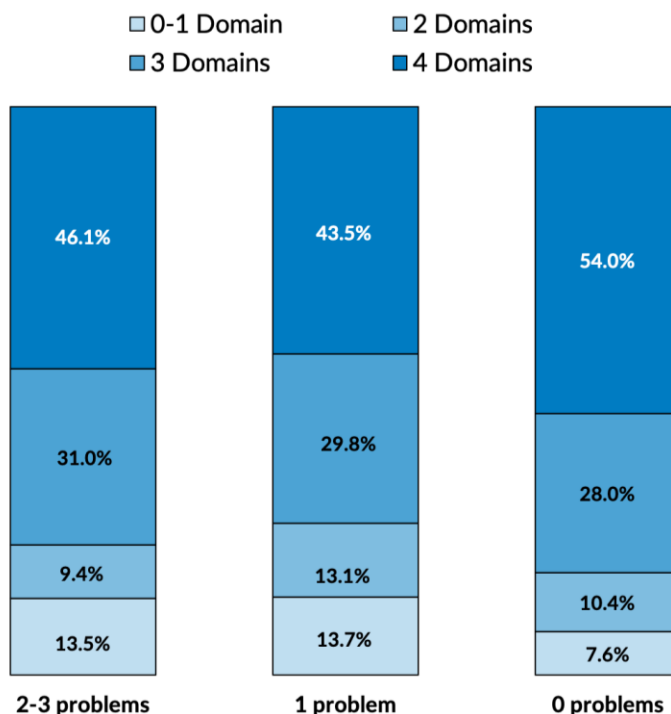
When families live in a neighborhood with problems, their preschool children are less likely to be healthy and ready to learn, compared to preschoolers whose neighborhoods do not have these problems.

Research indicates a link between neighborhood problems or safety and school readiness, such that a greater proportion of children living in neighborhoods with few problems are ready for school compared with those in neighborhoods with problems or unsafe conditions.^{x,xi} In the current analyses, neighborhood problems were measured by three items: litter or garbage on the street or sidewalk, poorly kept or rundown housing, and vandalism such as broken windows or graffiti. These three items are summed to provide an index of neighborhood problems.

Figure 8 shows that children living in neighborhoods with any of the specified neighborhood problems were less likely to be described as healthy and ready to learn. Specifically, 46 percent and 44 percent of children were On Track for health and readiness in all four domains when there were two to three problems or one problem, respectively, compared to 54 percent when none of these neighborhood problems were reported. Differences in health and readiness in three versus two domains are relatively modest with respect to the number of reported neighborhood problems; however, children in neighborhoods with none of the specified neighborhood problems are about half as likely to be On Track only in zero or one domain. In analyses that controlled for family poverty, parent education, child gender, race/ethnicity, and family structure, living in a neighborhood with two to three problems remained associated with being less healthy and ready to learn.

Detailed descriptive analyses indicate that neighborhood problems are associated with children being On Track in the self-regulation and health domains, but not in the early learning or social-emotional domains (see Appendix C).

Figure 8. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose neighborhood has 2-3, 1, or none of the reported neighborhood problems



Source: Child Trends' analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children's Health

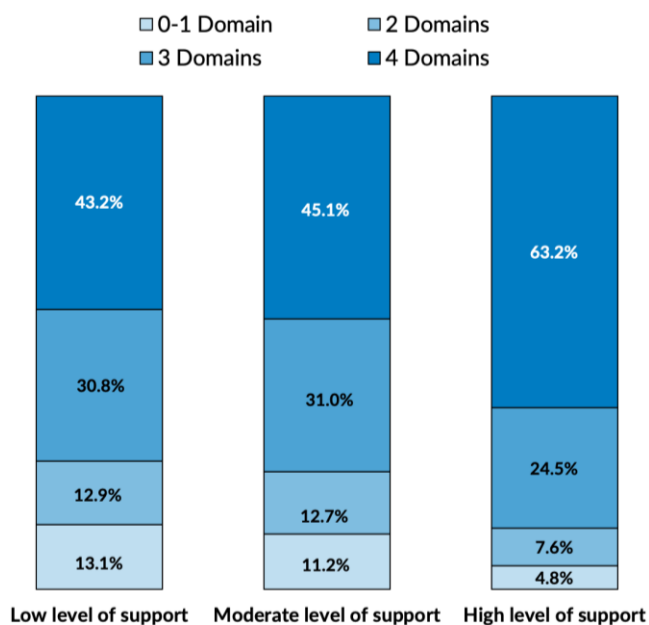
Preschool children whose parents feel that their neighborhood is supportive of families and children are considerably more likely to be healthy and ready to learn than their peers whose parents do not report neighborhood support.

Neighborhood cohesion and stability are important influences on family mental health and children’s school readiness.^{xii,xiii} Given this, we further examined neighborhood supportiveness. Neighborhood support was measured with four items in the NSCH, in which parents reported whether they definitely or somewhat agree or disagree that: people in their neighborhood help each other out; people watch out for each other’s children; their child is safe in their neighborhood; and they know where to go for help when they encounter difficulties. Responses were added and categories were coded as low, medium, and high (see Appendix B for items and coding).

Preschool children whose parents report living in neighborhoods that the parent describes as supportive are considerably more likely to be On Track for health and readiness in all four domains, as shown in Figure 9. That is, 63 percent of the children whose neighborhoods are reported to be highly supportive are On Track in all four domains, while 43 percent and 45 percent of children from neighborhoods reported to be low or medium, respectively, in their supportiveness are On Track for health and readiness in all four domains. Similarly, if their parents report living in a neighborhood with low or medium supportiveness, 13 percent are healthy and ready to learn in only zero or one domain, compared with 5 percent for children whose parents report living in a highly supportive neighborhood. In analyses that controlled for family poverty, parent education, child gender, race/ethnicity, and family structure, living in a highly supportive neighborhood continued to be significantly and positively associated with being healthy and ready to learn.

Detailed descriptive analyses indicate that neighborhood supportiveness is associated with the proportion of children who are On Track in each of the four of the individual HRTL domains (see Appendix C), not just the overall measure of HRTL.

Figure 9. Descriptive analyses of the percent of children ages 3 to 5 who are On Track in 4, 3, 2, or 0-1 Healthy and Ready to Learn domains, for children whose parents feel that their neighborhood has low, moderate, or high levels of support for children and families



Source: Child Trends’ analysis of parent-report data from the 2017 and 2018 waves of the National Survey of Children’s Health

11 Healthy and Ready to Learn is Linked with Family and Neighborhood Characteristics for Preschoolers

Discussion

The family and neighborhood measures included in the National Survey of Children's Health were chosen because a large body of research has found that they affect children's health and development. This brief considers whether these family and neighborhood factors, as reported by parents, are associated with the health and school readiness of children ages 3 to 5 as assessed in the Healthy and Ready to Learn measure.

Throughout this brief, we have shared descriptive information, along with analyses that control for confounding differences in the overall proportion of children who are On Track in all four domains. We have noted that most of the differences discussed in this brief continue to be statistically significant when we control for social, demographic, and economic factors – specifically, family poverty, parent education, child sex, family structure, and race/ethnicity. When we account for these factors, we may or may not continue to see evidence of a relationship between school readiness and a given family measure. For example, the association of being HRTL with family strength continues to be statistically significant. However, the relationship between being HRTL and emotional support becomes non-significant. That suggests that parents who are unable to access emotional support may differ in terms of their education or income. For the analyses presented in this brief, all of the relationships between being HRTL and the family and neighborhood variables remain significant, except for emotional support; with controls, the difference between parents with and without emotional support falls short of being statistically significant.

Analyses reported in this brief find that children from more supportive families and neighborhoods are more likely to be On Track for being Healthy and Ready to Learn in all four domains using the parent-report measures embedded within the NSCH. For example, the importance of parent mental health, including parent depression, for children's development, has been documented in many studies.^{xiv} In these analyses we also find that the parent's assessment of their mental and emotional health is strongly correlated with whether their preschool child is On Track for being healthy and ready to learn. Similarly, routines such as a regular bedtime and family meals have previously been found to be important to children's development,^{xv} and here we find them to be clearly associated with children's health and readiness to learn.

A clear implication of these analyses is that the well-being of the parent is associated with the extent to which their child is healthy and ready to learn. In particular, the parent's reported physical health and their mental/emotional health are both strongly associated with whether their preschool child is On Track on the overall HRTL measure and with being On Track in the four individual domains.

Also, research studies have found that parents benefit from having supportive relationships.^{xvi} The indicators that assess whether parents have emotional support and whether the neighborhood is supportive for children and families are both associated with the child's health and readiness to learn (although, as noted above, the measure of emotional support becomes non-significant in analyses that control for confounding factors). Moreover, the magnitude of the differences found with the indicators of neighborhood amenities and problems, while important, are somewhat smaller than the magnitude of the differences found for the measure of neighborhood supportiveness for parenting. Also, while the indicators of neighborhood amenities and problems are both related to children's overall health and readiness to learn, the association is only found for the self-regulation and health domains.

These patterns align with research findings and theory that family factors are of greater importance for children's development than neighborhood factors; research indicates that neighborhoods influence children's development indirectly via effects on parents, such as by affecting maternal mental health, stress, perceived supports, and supportive parenting behaviors. These analyses generally indicate that preschool children's health and readiness to learn is most clearly associated with measures of their family characteristics, activities, and circumstances—factors that are proximal to preschool children's daily lives and relationships.^{xvii} The magnitude of the associations for more distal factors, such as neighborhood amenities and problems, tend to be smaller and less consistent across the four developmental domains.

Conclusion

These analyses find that family factors are consistently and strongly associated with the extent to which preschool children are healthy and ready to learn. In addition, neighborhood factors, particularly neighborhood supports for children and families, also tend to be associated with children's readiness. These findings suggest that, if policymakers want to improve children's health and readiness to learn, they need to support families and communities.

We recognize that the associations described here are cross-sectional, and we note that the National Outcome Measure of Healthy and Ready to Learn examined here is a pilot measure that is likely to be strengthened in the coming year. In addition, all measures are reported by parents. Nonetheless, we note that the kinds of patterns discussed in this brief have also been found in analyses of the 2016 NSCH, using a Healthy and Ready to Learn measure that is slightly different in terms of the variables and coding of items in the measure. These patterns, therefore, appear to be very consistent.

We also note that most of the associations described in this brief remain statistically significant when we control for family poverty, parent education, child gender, race/ethnicity, and family structure. The most notable exception is the variable measuring whether the parent has someone who can provide them with emotional support; this may reflect the fact that nearly all respondents are able to identify someone. In fact, many are able to identify a range of people who provide support, including professionals, spouses/partners, clergy, and friends; however, we do not know about the quality and consistency of that support.

Previous researchers have pointed out that family, parent, and neighborhood characteristics are associated with children's pre-academic and social development, and physical health.^{xviii,xix,xx} However, the Healthy and Ready to Learn National Outcome Measure permits an examination of these associations for a national sample of preschool children. Moreover, given the richness of the data in the NSCH, it is possible to identify varied factors that are linked with whether a child is On Track for being healthy and ready to learn in individual developmental domains, as well as On Track across domains. These data will be available for each state and will be made available on an annual basis, as a part of the National Survey of Children's Health.

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Appendix A: Overview of Healthy and Ready to Learn National Outcome Measure

The National Survey of Children’s Health (NSCH) provides data about children aged 0 to 17 at both the state and national level. The survey provides rich information on children’s health status, medical conditions, and health services. It also provides important social and economic information about the child’s family, ranging from parenting to family income to neighborhood characteristics. The NSCH is fielded every year, so data can be combined across years and trends can be compared over the years. Parent/caregiver data are collected by the U.S. Census Bureau via web-based and paper-and-pencil questionnaires.

The Maternal and Child Health Bureau of the Health Resources and Services Administration (HRSA) has conducted the NSCH since 2003. In 2016, it included a battery of items to assess children’s readiness for school. Using these items, Child Trends developed a pilot measure of Healthy and Ready to Learn for children ages 3 to 5. Items have been included in subsequent waves of the NSCH, and a contract was issued to Child Trends under a contract with Maya Tech to validate and enhance the initial pilot measure. This brief shares data from the 2017 and 2018 waves of the NSCH. The survey sample for children ages 0 to 17 is 21,599 for 2017 and 30,530 for 2018, and 3,219 and 4,618 for children ages 3 to 5, a total of 7,837 3- to 5-year-olds, for whom the measure is being developed. We note that the items and response categories and, in a few cases, the coding employed in the 2017 and 2018 NSCH analyses differs from the coding used in the initial analyses of the 2016 NSCH—e.g., the one measure of motor development was dropped. These revisions result in an increase in the proportion of children found to be On Track with the more recent data. However, the pattern whereby more advantaged children are more likely to be healthy and ready to learn is found consistently across survey years. Also, while the items included in the measure are subject to revision as a part of the validation effort, the domains, approach, and utility of the NOM will be sustained.

The Healthy and Ready to Learn measure uses a “whole child” perspective, which recognizes that children’s development and well-being are affected by their health, social, emotional, and cognitive development. Accordingly, the 2016 and the 2017-18 measures both assess four domains of development. These domains and the items in each domain are reported below.

Appendix Table A1. Variables Used in Each Domain of the National Outcome Measure of Healthy and Ready to Learn

Early Learning Skills	Social-Emotional	Self-Regulation	Physical Health
How often can this child recognize the beginning sound of a word? For example, can this child tell you that the word “ball” starts with the “buh” sound?	How often does this child play well with others?	How often is this child easily distracted?	In general, how would you describe this child's health?
About how many letters of the alphabet can this child recognize?	Compared to other children his or her age, how much difficulty does this child have making or keeping friends?	Compared to other children his or her age, how often is this child able to sit still?	How would you describe the condition of this child's teeth?

Early Learning Skills	Social-Emotional	Self-Regulation	Physical Health
How often can this child explain things he or she has seen or done so that you get a very good idea what happened?	How often does this child bounce back quickly when things do not go his or her way?	How often does this child keep working at something until he or she is finished?	During the past 12 months, how often have this child's health conditions or problems affected his or her ability to do things other children his or her age do? (combined with) To what extent do this child's health conditions or problems affect his or her ability to do things?
How high can this child count?	How often does this child show concern when others are hurt or unhappy?	When this child is paying attention, how often can he or she follow instructions to complete a simple task?	
How often can this child identify basic shapes such as a triangle, circle, or square?	Does this child smile and laugh?	When excited or all wound up, how often can this child calm down quickly?	
Can this child identify the colors red, yellow, blue, and green by name?	Is this child affectionate and tender with you?	Are you concerned about how this child is learning to do things for him or herself?	

Source: Questions from the 2018 National Survey of Children's Health (NSCH) for children aged 3-5 years

Appendix B: Family and Neighborhood Covariates

Appendix Table B1. Reported below are the covariates used in the analyses conducted for this brief. The items and their response categories, as well as the coding scheme developed, are shown here.

Item	Response categories	Coding
Family strength		
<p>When your family faces problems, how often are you likely to do each of the following:</p> <ol style="list-style-type: none"> Talk together about what to do Work together to solve our problem Know we have strengths to draw on Stay hopeful even in difficult times 	<p>All of the time (4), Most of the time (3), Some of the time (2), None of the time (1)</p>	<p>Scores were summed across the four scenarios to create an index.</p> <p><u>Categories:</u></p> <ul style="list-style-type: none"> 16 = High level of strengths 12-15 = Moderate level of strengths 3-11 = Low level of strengths
Family routines		
<p>How often does this child go to bed at about the same time on weeknights?</p> <p>During the past week, on how many days did all the family members who live in the household eat a meal together?</p>	<p>Always, Usually, Sometimes, Rarely, Never</p> <p>0 days, 1-3 days, 4-6 days, Every day</p>	<p><u>Categories:</u></p> <ul style="list-style-type: none"> “Always” or “Usually” goes to bed at the same time AND family eats together every day = High level of routines “Always” or “Usually” goes to bed at the same time AND family eats together 4-6 days = Moderate level of routines All else = Low level of routines
Parenting anger		
<p>During the past month, how often have you felt angry with this child?</p>	<p>Never, Rarely, Sometimes, Usually, Always</p>	<p><u>Categories:</u></p> <ul style="list-style-type: none"> “Always”, “Usually”, and “Sometimes” = High to Medium level of difficulty “Rarely” or “Never” = Low level of difficulty
Emotional support		
<p>During the past 12 months, was there someone that you could turn to for day-to-day emotional support with parenting or raising children?</p>	<p>Yes, No</p>	<p><u>Categories:</u></p> <ul style="list-style-type: none"> Has emotional support (responded “yes”) No emotional support (responded “no”)
Parent mental health		
<p>In general, how is your mental or emotional health?</p>	<p>Excellent, Very Good, Good, Fair, Poor</p>	<p><u>Categories:</u></p> <ul style="list-style-type: none"> Poor/Fair Good Very good/Excellent

Item	Response categories	Coding
Parent physical health		
In general, how is your physical health?	Excellent, Very Good, Good, Fair, Poor	<u>Categories:</u> <ul style="list-style-type: none"> • Poor/Fair • Good • Very good/Excellent
Neighborhood amenities		
In your neighborhood, is/are there: <ol style="list-style-type: none"> a. Sidewalks or walking paths? b. A park or playground? c. A recreation center community center, or boys' and girls' club? d. A library or bookmobile? 	Yes, No	<p>“Yes” responses were summed across categories a-d to create an index.</p> <p><u>Categories:</u></p> <ul style="list-style-type: none"> • 4 amenities • 2-3 amenities • 0-1 amenities
Neighborhood problems		
In your neighborhood, is/are there: <ol style="list-style-type: none"> a. Litter or garbage on the street or sidewalk? b. Poorly kept or rundown housing? c. Vandalism such as broken windows or graffiti? 	Yes, No	<p>“Yes” responses were summed across categories e-g to create an index.</p> <p><u>Categories:</u></p> <ul style="list-style-type: none"> • 0 problems • 1 problem • 2-3 problems
Neighborhood support		
To what extent do you agree with these statements about your neighborhood or community? <ol style="list-style-type: none"> a. People in this neighborhood help each other out b. We watch out for each other's children in this neighborhood c. This child is safe in our neighborhood d. When we encounter difficulties, we know where to go for help in our community 	Definitely agree (4), Somewhat agree (3), Somewhat disagree (2), Definitely disagree (1)	<p>Scores were summed across the four scenarios to create an index.</p> <p><u>Categories:</u></p> <ul style="list-style-type: none"> • 15-16 = High level of support • 12-14 = Moderate level of support • 4-11 = Low level of support

Source: Questions from the 2018 National Survey of Children's Health (NSCH) for children aged 3-5 years

Appendix C: Domain-specific findings

Appendix Table C1. Proportion of children ages 3 to 5 who are On Track in each of the four domains (health and motor development, social emotional development, self-regulation, and early learning) and On Track in all four domains in the overall measure of Healthy and Ready to Learn.

Family covariates	Early Learning Skills		Social Emotional Development		Self-Regulation		Physical Health		Overall School Readiness	
		P-value		P-value		P-value		P-value		P-value
Family strength		0.00		0.00		0.00		0.10		0.00
High level of strength (44.9%)	85.2%		85.8%		76.0%		89.7%		59.2%	
Moderate level of strength (44.4%)	82.3%		78.5%		65.1%		86.3%		47.8%	
Low level of strength (10.7%)	70.1%		65.2%		47.9%		84.6%		33.6%	
Family routines		0.00		0.02		0.00		0.09		0.00
High presence (48.7%)	84.1%		81.0%		72.9%		87.5%		54.7%	
Moderate presence (25.8%)	86.3%		83.4%		71.0%		90.7%		56.7%	
Low presence (25.5%)	74.7%		76.0%		57.2%		84.8%		41.0%	
Parenting anger		0.03		0.00		0.00		0.04		0.00
Low level of anger (83.7%)	83.1%		83.7%		73.0%		88.5%		56.0%	
High to medium level of anger (18.3%)	77.9%		66.0%		47.5%		83.2%		32.0%	
Emotional support		0.03		0.01		0.01		0.00		0.00
Has emotional support (79.0%)	83.2%		82.1%		70.3%		89.1%		54.3%	
No emotional support (21.0%)	77.5%		74.2%		60.4%		81.2%		40.3%	
Parent mental health		0.00		0.00		0.00		0.00		0.00
Very good/Excellent (78.6%)	84.5%		83.3%		72.1%		90.7%		55.7%	
Good (16.8%)	77.1%		72.2%		57.2%		78.9%		38.3%	
Poor/Fair (4.6%)	65.2%		59.5%		44.5%		68.0%		27.7%	
Parent physical health		0.00		0.00		0.00		0.00		0.00
Very good/Excellent (72.4%)	85.5%		83.2%		74.6%		91.7%		57.9%	
Good (22.5%)	76.2%		72.7%		55.8%		77.1%		37.6%	
Poor/Fair (5.1%)	62.7%		70.9%		41.1%		77.4%		25.1%	
Neighborhood amenities		0.00		0.35		0.00		0.05		0.01
4 amenities (38.1%)	86.7%		81.8%		73.4%		90.0%		55.7%	
2-3 amenities (41.2%)	81.1%		78.8%		66.9%		87.2%		50.4%	
0-1 amenities (20.7%)	76.5%		80.9%		61.3%		83.9%		45.5%	
Neighborhood problems		0.80		0.02		0.03		0.00		0.01
0 problems (74.4%)	82.7%		82.0%		70.3%		89.7%		54.0%	
1 problem (16.1%)	82.5%		74.2%		61.9%		81.2%		43.5%	
2-3 problems (9.5%)	80.4%		80.2%		63.0%		80.5%		46.1%	
Neighborhood support		0.00		0.00		0.00		0.00		0.00
High level of support (37.8%)	88.0%		87.2%		76.4%		92.9%		63.2%	
Moderate level of support (40.7%)	80.0%		78.0%		63.4%		85.0%		45.1%	
Low level of support (21.5%)	76.6%		73.1%		63.6%		83.1%		43.2%	

Source: Descriptive analyses of data from the 2017 and 2018 waves of the National Survey of Children's Health (NSCH) for children aged 3-5 years